

Claims

1. A delivery device for delivering an implant to anatomical site in a body of a patient, the device comprising,
 - a handle,
 - a shaft having proximal and distal ends and attached to the handle at the proximal end,
 - a pusher tube slideably fitted over the shaft and extending from the handle distally along a portion of the shaft, and
 - a pushing mechanism operatively interconnected with the handle for actuating the pusher tube distally along a portion of the shaft to deliver an implant to an anatomical site.
2. The delivery device of claim 1, wherein the pusher tube and the pushing mechanism are integrated into a single assembly,
3. The delivery device of claim 1, wherein the handle includes a first axially extending recess and the pushing mechanism includes a first axially extending tongue for slideably interfitting with the first axially extending recess.
4. The delivery device of claim 3, wherein the handle includes a first stop located at a proximal end of the first axially extending recess and the first axially extending tongue includes a projection located at a distal end for engaging with the first stop to limit axial motion in a distal direction of the first tongue relative to the handle.
5. The delivery device of claim 4, wherein the handle includes a second axially extending recess substantially parallel to the first axially extending recess, and the pushing mechanism includes a second axially extending tongue for slideably interfitting with the second axially extending recess.

6. The delivery device of claim 5, wherein the handle includes a second stop located a proximal end of the second axially extending recess and the second axially extending tongue includes a projection located at a distal end for engaging with the second stop to limit axially motion in a distal direction of the second tongue relative to the handle.

7. The delivery device of claim 3, wherein the first axially extending tongue includes a first projection located at a distal end for engaging with a proximal end of the first axially extending recess to limit axial motion in a proximal direction of the first tongue relative to the handle.

8. The delivery system of claim 1, wherein the pushing mechanism slideably interfits over the shaft and includes a pusher button for actuating the pushing mechanism.

9. The delivery system of claim 1, wherein the pusher button includes a reduced diameter portion for accommodating a finger of a medical operator.

10. A system for delivering an implant to anatomical site in a body of a patient, the device comprising,

an implant for being delivered to an anatomical site in the body of a patient, and a delivery device including,

a handle,

a shaft having proximal and distal ends and attached to the handle at the proximal end,

a pusher tube slideably fitted over the shaft and extending from the handle distally along a portion of the shaft, and

a pushing mechanism operatively interconnected with the handle for actuating the pusher tube distally along a portion of the shaft to deliver the implant to the anatomical site.

11. The delivery device of claim 10, wherein the pusher tube and the pushing mechanism are integrated into a single assembly,

12. The delivery device of claim 10, wherein the handle includes a first axially extending recess and the pushing mechanism includes a first axially extending tongue for slideably interfitting with the first axially extending recess.
13. The delivery device of claim 12, wherein the handle includes a first stop located at a proximal end of the first axially extending recess and the first axially extending tongue includes a projection located at a distal end for engaging with the first stop to limit axial motion in a distal direction of the first tongue relative to the handle.
14. The delivery device of claim 13, wherein the handle includes a second axially extending recess substantially parallel to the first axially extending recess, and the pushing mechanism includes a second axially extending tongue for slideably interfitting with the second axially extending recess.
15. The delivery device of claim 14, wherein the handle includes a second stop located a proximal end of the second axially extending recess and the second axially extending tongue includes a projection located at a distal end for engaging with the second stop to limit axially motion in a distal direction of the second tongue relative to the handle.
16. The delivery device of claim 12, wherein the first axially extending tongue includes a first projection located at a distal end for engaging with a proximal end of the first axially extending recess to limit axial motion in a proximal direction of the first tongue relative to the handle.
17. The delivery system of claim 10, wherein the pushing mechanism slideably interfits over the shaft and includes a pusher button for actuating the pushing mechanism.
18. The delivery system of claim 10, wherein the pusher button includes a reduced diameter portion for accommodating a finger of a medical operator.

19. The delivery system of claim 10, wherein the implant comprises a sling assembly having first and second ends.
20. The delivery system of claim 19, wherein the sling assembly includes a first guide tube attached to the first end and a second guide tube attached to the second end, and each of the first and second guide tubes are sized for slideably interfitting over a distal end of the shaft.
21. The delivery system of claim 20, wherein the shaft has a conical tip at the distal end and at least one end of the first and second guide tubes is tapered to accommodate the conical tip.
22. The delivery system of claim 20, wherein the first and second guide tubes are sized for interfitting, alternately, and one at a time, over the shaft and abutting a distal end of the pusher tube.
23. The delivery system of claim 20, wherein the first guide tube has proximal and distal ends and attaches at the proximal end to the first end of the sling assembly and slideably interfits over the shaft, proximal end first.
24. The delivery system of claim 20, wherein the first guide tube has proximal and distal ends, attaches at the proximal end to the first end of the sling assembly and slideably interfits over the shaft, distal end first.
25. A method of delivering an implant to an anatomical site in a body of a patient, the method comprising,
 - slideably interfitting a first guide tube attached to a first end of an implant over a distal end and along at least a portion of a length of a shaft,
 - positioning at least the distal end of the shaft in a body of a patient,

sliding the first guide tube off the shaft to deliver a first portion of the implant into the body of the patient,

slideably interfitting a second guide tube attached to a second end of the implant over the distal end and along at least a portion of the length of the shaft,

positioning at least the distal end of the shaft in the body of the patient, and

sliding the second guide tube off the shaft to deliver a second portion of the implant into the body of the patient.

26. The method of claim 25, wherein the implant includes a sling for treating urinary incontinence.

27. The method of claim 25 comprising using a pushing mechanism to slide the first and second guide tubes off the shaft,

28. The method of claim 25, wherein the first and second guide tubes have proximal and distal ends, attach at their respective proximal ends to the sling assembly, and the method comprises sliding the first and second guide tubes, distal end first, over the distal end of the shaft.

29. The method of claim 25, wherein the first and second guide tubes have proximal and distal ends, attach at their respective proximal ends to the sling assembly, and the method comprises sliding the first and second guide tubes, proximal end first, over the distal end of the shaft.

30. The method of claim 25, comprising delivering the implant to a midurethral position in the body of the patient.

31. The method of claim 25, comprising positioning the distal end of the shaft in the body of the patient intravaginally.

32. A method of delivering an implant to an anatomical site in a body of a patient, the method comprising,

slideably interfitting a first guide tube attached to a first end of an implant over a distal end and along at least a portion of a length of a first shaft,

positioning at least the distal end of the first shaft in a body of a patient,

sliding the first guide tube off the first shaft to deliver the a first portion of the implant into the body of the patient,

slideably interfitting a second guide tube attached to a second end of the implant over a distal end and along at least a portion of a length of a second shaft,

positioning at least the distal end of the second shaft in the body of the patient, and

sliding the second guide tube off the second shaft to deliver a second portion of the implant into the body of the patient.

33. The method of claim 32, wherein the positioning steps for the first and second shafts are performed before the sliding steps for the first and second steps.

34. A delivery device for delivering an implant to anatomical site in a body of a patient, the device comprising,

a handle,

a shaft having proximal and distal ends and attached to the handle at the proximal end,

a first guide tube having proximal and distal ends and attaches at the proximal end to a first end of a sling assembly and slideably interfits over the shaft, proximal end first.